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FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

NORTH PACIFIC MARINE RADIO COUNCIL

1266 Marcus Street
Seattle, Washington 98109

April 13, 1993

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Donna Searcy, Secretary
Federal Communications Commission
Washington, D.C. 20554

Dear Ms. Searcy:

Attached are an original and 5 copies of Comments associated with PR Docket No. 92-257 concerning the future of maritime communications.

Before the

FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554

In the Matter of	)	
	)	
Amendment of the Commission's Rules	)	PR Docket No. 92-257
Concerning Maritime Communications	)	
	)	

COMMENTS OF

North Pacific Marine Radio Council
1266 Mercer Street
Seattle, Washington 98109

Introduction

The North Pacific Marine Radio Council (NPMRC or Council) files these comments on the FCC's Proposal, PR Docket No. 92-257. The NPMRC represents the interests of all marine users operating in Northwest waters including Alaska and Puget Sound. The Council has served as VHF Frequency Coordinator for the Puget Sound area for two years. Our comments are primarily aimed at the VHF portion of the maritime spectrum, however, some of our comments apply to the lower MF/HF allocations.

The Council is pleased to see this initiative aimed at planning for the future of marine communications. Many of the complaints we hear relate to the industries changing needs. These needs are not being met by outdated Rules that have not substantially changed in many years. There is little doubt that current Rules and spectrum utilization do not fulfill the marine industries needs.

A. Notice of Inquiry

Future Telecommunications Requirements

It is easier to see the present day needs that aren't being met, than to predict the future needs. The marine business community needs the same tools that are now considered routine on land. This includes the ability to send and receive telephone calls, facsimile, electronic mail, and various types of data transfer. The future will no doubt require the ability to employ video technology. Congestion that already exists in heavily populated areas will get worse as the years go by.

These current and future requirements will continue to tax channel capacities and unless changes are made, communications capabilities will be stymied. A combination of advanced technologies, additional spectrum, and automated operational procedures is essential to meeting marine users needs into the next century.

Other services such as cellular, land mobile, and future personal communications services have and will provide relief in waters adjacent to highly populated areas. In other areas, the communications and safety needs between vessels and between vessels and land stations can only be met through services specifically designed for maritime use.

Technology

The Council strongly supports opening the doors to new technology, with an orderly transition from 25 kHz narrow band FM VHF channels to 5 kHz spaced channels, to be used for data and/or voice. The current 25 kHz spacing is already inadequate in areas of high congestion due to interference caused by numerous high power transmitters in close proximity. We do not believe splitting the channels for narrower band FM is the best course to pursue. Local experience with existing land mobile channels reflect the requirement of having tone coded squelch to eliminate the unwanted audio from adjacent channels. Rather, new technology should be phased in over the next 10 to 20 years on a worldwide basis. Dual mode equipment will be an essential part of the transition. We recommend worldwide competition to develop and identify the narrow band voice technology for the future. Existing ASCB may already fit the bill and there are numerous digital technologies currently under development.

Digital selective calling (DSC) and/or Automatic Link Establishment (ALE) is expected to be an essential ingredient to the new technology. All calling should be totally automated, which will reduce spectrum congestion dramatically. This would include, determining if the called party is within range, selecting a channel to use, and setting the necessary power levels at each end. Power levels, at a minimum should automatically switch between 1 and 25 watts. It would be preferable if many more levels could be automatically selected.

We recommend that the "commercial & non-commercial" designations within the Rules be

1996-2006	Phase in the conversion of existing land mobile channels 01 through 04 and 60 through 64 into new technology channels
2006-2010	Phase in the conversion of all remaining VHF maritime channels to new technology including GMDSS

We believe these recommendations will keep the safety net intact while opening the door for a five-fold increase in maritime channels, which will be responsive to the future needs of the maritime community.

Trunking

Trunking as currently used by the land mobile community does not seem appropriate for ship operations because all operations are not confined to a well defined area. The marine community can avail themselves of this type of operation through land mobile licensees and have already done so. The limited number of existing marine channels does not lend itself to this type of operation. The idea may have merit if new technology is adopted and a significant number of new channels are created.

Rather than conventional trunking, new technology should require equipment to be capable of automatically finding an unused channel, determining all channels are busy, or be capable of picking one with signals at some specified low field strength to share. Equipment used must also be capable of determining the minimum amount of power needed to communicate with the called party. The equipment should be capable of setting its power level automatically. A manual override should be available for use during unusual circumstances. A great deal of ship communications are conducted between ships and/or land facilities within sight of each other. Controlling the power levels would reduce interference and allow better reuse of the channels. There are approximately 15 channels used for the majority of intership and ship to coast communications. With new technology these channels could be increased to 75. With automatic calling, automatic channel selection, and automatic power level setting, service to the maritime community would be significantly enhanced.

Digital Selective Calling

We believe DSC should be the essential part of new technology for maritime radio users. We would not object to having DSC capabilities incorporated into new equipment as early as 1997. We would also encourage the development of add-on devices to allow existing equipment to be made DSC capable. The sooner this technology is introduced, the sooner it will become affordable to all boat owners. After 1999, the boaters who are not required to use the new technology should continue to monitor the appropriate channels and provide some measure of safety in areas of heavy marine activity. The Coast Guard should continue to be capable of responding to manual calls on Channel 16. The Commission should designate DSC as the only method of automatic calling no later than 1999, which would coincide with full GMDSS implementation. We are concerned that VHF Channel 70 might eventually become overloaded with automatic calling. After the introduction of new technology, a second channel should be added for optional and/or eventual mandatory use for non-safety DSC calling. We support early DSC use in establishing automated telephone calling on public correspondence channels. This should include automatic queuing and call back when the channels become available.

Narrow-Band Direct-Printing (NBDP)

NBDP as now authorized is outdated technology. The existing channels should be opened to new technology and allowed to improve as technology changes. Authorizing connections to the Public Switched Data Network (PSDN) and Public Data Network's (PDN) by public coast stations and private coast stations, respectively, would allow marine data traffic for all marine stations similar to what we have for voice communications. All stations could reside on the same channels with a phased-in change to a common protocol (TCP/IP, X.25,, X.400 etc.). This "Store and Forward" type of communication with error checking, positive message routing, and message encryption would provide a near-real-time secure communications capability for alerting, communicating, and position logging that make up a bulk of today's commercial operational communications. This type of system can be implemented on VHF, HF, and MF frequencies with little or no change in regulatory issues and will provide a seamless move from the antiquated Sitor system now is in use, and establish a common protocol for all marine data traffic.

Private Carriers

We believe it essential that there be some form of competition between entities furnishing voice and data communications services. There may be few smaller companies who will desire to furnish their own communications if there is an affordable alternative. With the introduction of new technology, public coast stations should be given the opportunity to offer data services as well as connection to the PSTN. We believe a mix of public coast stations with exclusive channels for voice and exclusive channels for data should be allowed to compete with private carriers offering identical services. Private coast stations should still be allowed to communicate with the vessels they service on shared channels as in the past. The mix of the three types of services should be aimed at equalizing the loading of all the available channels.

Exclusive Use

Private carriers and public coast stations should be given exclusive use of channels, subject to some type of loading criteria. Private Coast stations should share channels and be required to have equipment that will select open channels in an automatic manner (see trunking comments).

Permissible Communications

We do not object to land mobile use of public coast stations on a secondary basis. Equipment should be capable of automatically giving marine users preference in service. If new private carriers are authorized after new technology is introduced, they should be given the same opportunities. Equipment must incorporate automatic queuing of callers wishing to make calls, and marine users must always automatically go to the top of the list.

Intra-service Sharing

We would support Intra-service sharing of the MF (2-4 MHz) channels to alleviate the congestion to private coast stations in this band. With regard to the VHF bands, we are suggesting the elimination of the Commercial and Non-commercial designations. Instead we suggest a new designation for all vessels as "Ship Business" channels. Accompanying this new designation would be rules that restrict the type of communications involved. We do not believe non-business communications should be allowed in the present limited spectrum. It is possible after new technology is in place and the number of channels have increased, the Commission might be able to allow other than strictly business communications on a limited number of channels. New technology should incorporate automatic power setting capabilities on all marine transmitters to keep the power levels as low as possible. In this way, the channels will be able to be used by other vessels in closer proximity to each other. We believe new technology equipment should

automatically initiate routine calls at one watt and then adjust up or down as necessary. Much of today's congestion is the direct result of the vast majority of marine users using high power when it isn't needed.

Automatic Interconnection with PSTN

There is no doubt Commission Rules should be changed to allow automatic interconnection to the PSTN by public coast stations and an equal number of private carriers. We believe that competition is essential to bringing forth the very best service at the most reasonable cost. Removing operator requirements for coast stations with automatic interconnection to the PSTN should not pose a significant reduction to the safety in the maritime services. Operators could be phased out after GMDSS is fully implemented and new technology is available. We believe DSC should be the method used for automatic interconnection to the PSTN. Requiring some automatic way of signaling an operator, using DSC, for ship to shore calls would be preferable to totally unattended operation.

AMTS Channels

We do not see additional maritime use of these channels, however, we would recommend that land mobile users who are now occupying the lower marine channels (1 - 4, 60 - 64) be moved into a portion of this spectrum so that new technology 5 kHz spaced channels for marine use can use those channels. There is potential for 45 new technology channels that could be used for voice and data, which would go a long way towards meeting the maritime communities current and future needs. We would favor land mobile sharing of these channels where appropriate.

B. Proposed Rule Making

Reclassification of Public Coast Stations as Non-Dominant Common Carriers

We have no objection to this reclassification.

Private Land Mobile Use of Marine Frequencies

We do not object to land mobile licensees using marine frequencies in areas far from navigable waters as long as very specific interference criteria is documented. Interference complaints must be quickly and easily resolved. Any authorized use of marine frequencies by land mobile interests should be considered in conjunction with marine users gaining access to additional land mobile spectrum. Specifically, as mentioned above, the lower marine channels (1 - 4, 60 - 64) which have been occupied by land mobile should be phased out and made available for new narrow band marine channels in the future.

Respectfully submitted,

Jack C. Rottler, President
North Pacific Marine Radio Council
1266 Mercer Street
Seattle, WA 98109

Date of Comments:
April 13, 1993

Channel	Ship	Coast	USA assigned	Current Use	Proposed Use
60	156.025	156.025	Land Mobile		Voice/Data - 5 kHz Channels
01	156.050	156.050	Land Mobile		Voice/Data - 5 kHz Channels
61	156.075	156.075	Land Mobile		Voice/Data - 5 kHz Channels
02	156.100	156.100	Land Mobile		Voice/Data - 5 kHz Channels
62	156.125	156.125	Land Mobile		Voice/Data - 5 kHz Channels
03	156.150	156.150	Land Mobile		Voice/Data - 5 kHz Channels
63	156.175	156.175	Land Mobile		Voice/Data - 5 kHz Channels
04	156.200	156.200	Land Mobile		Voice/Data - 5 kHz Channels
64	156.225	156.225	Land Mobile		Voice/Data - 5 kHz Channels
05	156.250	156.250	Maritime Mobile	Port Operations - VTS	Port Operations - VTS
65	156.275	156.275	Maritime Mobile	Port Operations	Port Operations
06	156.300	156.300	Maritime Mobile	***Intership Safety***	***Intership Safety***
66	156.325	156.325	Maritime Mobile	Port Operations	Port Operations
07	156.350	156.350	Maritime Mobile	Commercial	Ship Business
67	156.375	156.375	Maritime Mobile	Commercial Intership	Ship Business - Intership
08	156.400	156.400	Maritime Mobile	Commercial Intership	Ship Business - Intership
68	156.425	156.425	Maritime Mobile	Non-commercial	Ship Business
09	156.450	156.450	Maritime Mobile	Non-commercial	Ship Business
69	156.475	156.475	Maritime Mobile	Non-commercial	Ship Business
10	156.500	156.500	Maritime Mobile	Commercial	Ship Business
70	156.525	156.525	Maritime Mobile	***Digital Selective Calling***	***Digital Selective Calling***
11	156.550	156.550	Maritime Mobile	Commercial - VTS	Ship Business
71	156.575	156.575	Maritime Mobile	Non-commercial	Ship Business
12	156.600	156.600	Maritime Mobile	Port Operations - VTS	Port Operations - VTS
72	156.625	156.625	Maritime Mobile	Non-commercial Intership	Ship Business - Intership
13	156.650	156.650	Maritime Mobile	***Bridge to Bridge***	***Bridge to Bridge***
73	156.675	156.675	Maritime Mobile	Port Operations	Port Operations - Intership
14	156.700	156.700	Maritime Mobile	Port Operations - VTS	Port Operations - VTS
74	156.725	156.725	Maritime Mobile	Port Operations	Port Operations
15	156.750	156.750	Maritime Mobile	Environmental	Special Purpose
75	156.775	156.775	Maritime Mobile	***GUARD BAND FOR 16***	***GUARD BAND FOR 16***
16	156.800	156.800	Maritime Mobile	***Distress, Safety & Calling***	***Distress, Safety & Calling***
76	156.825	156.825	Maritime Mobile	***GUARD BAND FOR 16***	***GUARD BAND FOR 16***
17	156.850	156.850	Maritime Mobile	Maritime Control	Special Purpose
77	156.875	156.875	Maritime Mobile	Port Operations Intership	Port Operations - Intership
18	156.900	156.900	Maritime Mobile	Commercial	Ship Business
78	156.925	156.925	Maritime Mobile	Non-commercial	Ship Business - Data
19	156.950	156.950	Maritime Mobile	Commercial	Ship Business - Data
79	156.975	156.975	Maritime Mobile	Non-commercial Great Lakes	Ship Business - Intership
20	157.000	157.000	Maritime Mobile	Port Operations	Port Operations
80	157.025	157.025	Maritime Mobile	Commercial	Ship Business
21	157.050	157.050	Maritime Mobile (Govt)		
81	157.075	157.075	Maritime Mobile (Govt)		
22	157.100	157.100	Maritime Mobile (Govt)	USCG Liaison	
82	157.125	157.125	Maritime Mobile (Govt)		
23	157.150	157.150	Maritime Mobile (Govt)		
83	157.175	157.175	Maritime Mobile (Govt)		
24	157.200	161.800	Maritime Mobile	Public Correspondence	Public Correspondence
84	157.225	161.825	Maritime Mobile	Public Correspondence	Public Correspondence
25	157.250	161.850	Maritime Mobile	Public Correspondence	Public Correspondence
85	157.275	157.275	Maritime Mobile	Public Correspondence	Public Correspondence
26	157.300	161.900	Maritime Mobile	Public Correspondence	Public Correspondence
86	157.325	161.925	Maritime Mobile	Public Correspondence	Public Correspondence
27	157.350	161.950	Maritime Mobile	Public Correspondence	Public Correspondence
87	157.375	157.375	Maritime Mobile	Public Correspondence	Public Correspondence
28	157.400	162.000	Maritime Mobile	Public Correspondence	Public/Private Data
88	157.425	157.425	Maritime Mobile	Commercial Intership	Public/Private Data

Attachment